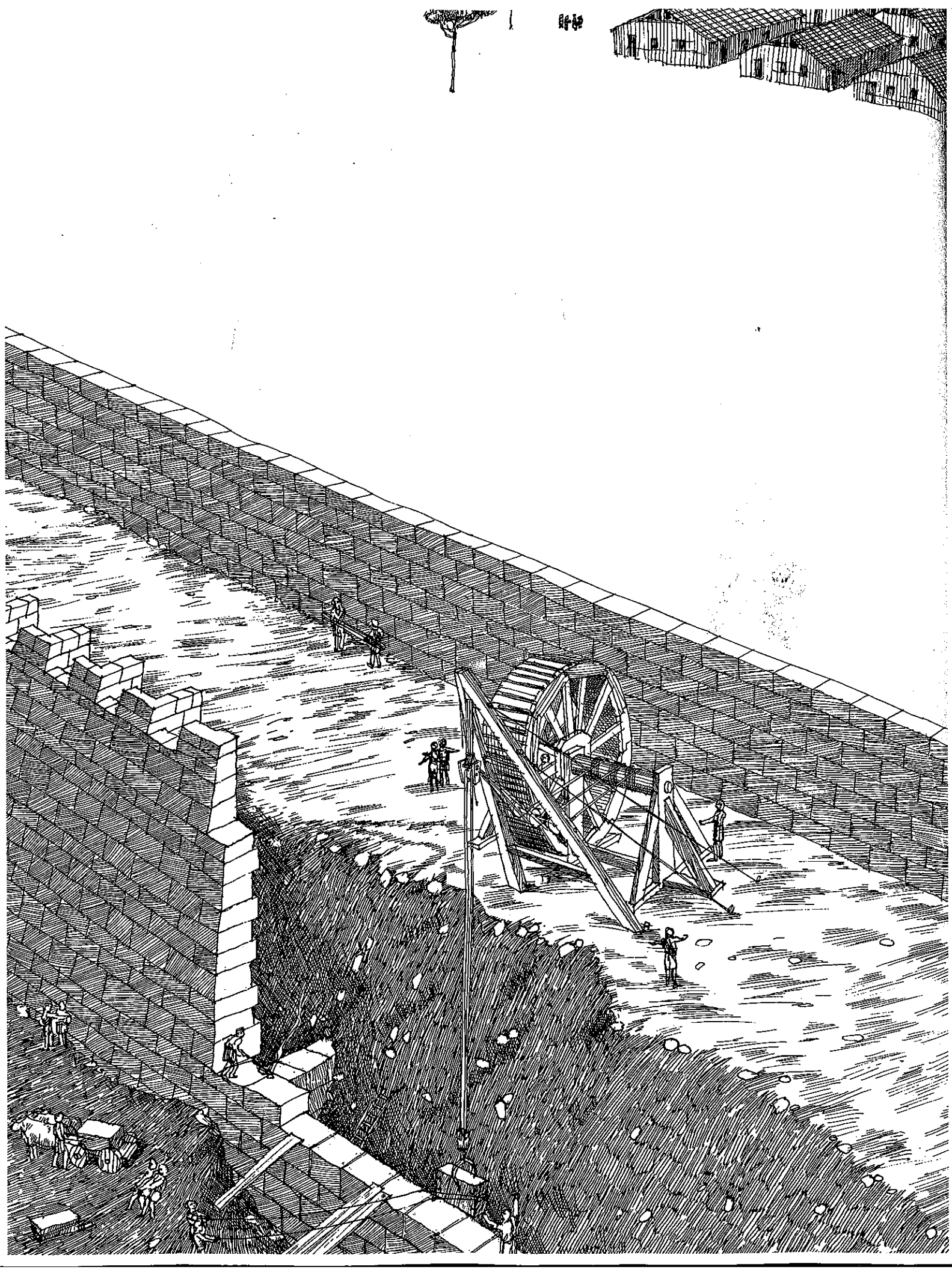
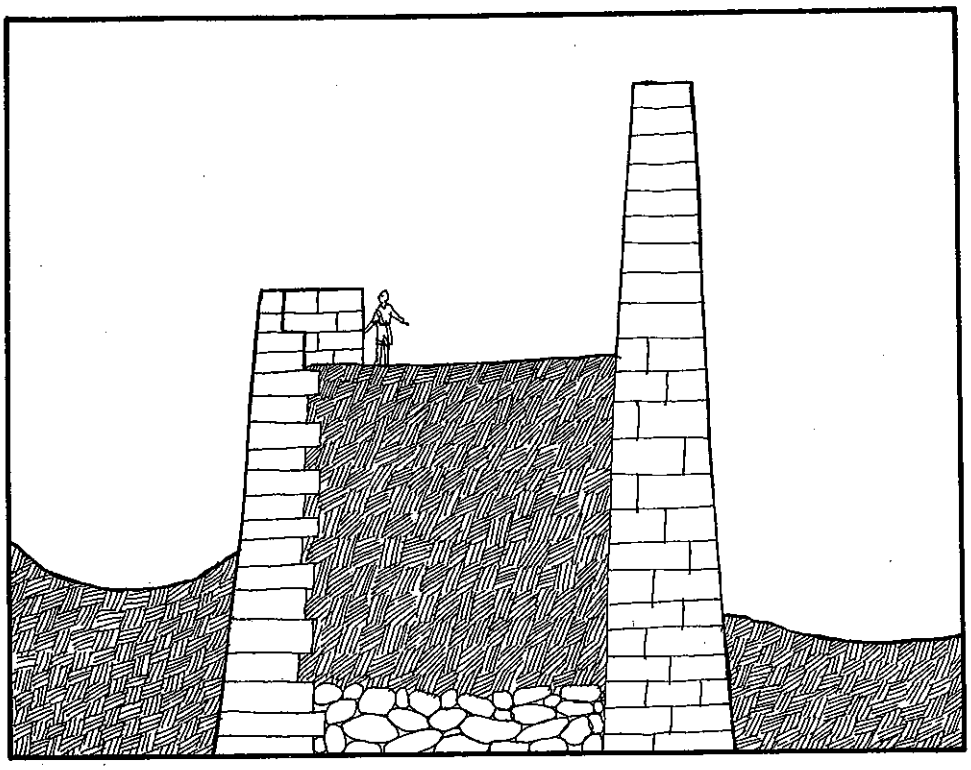
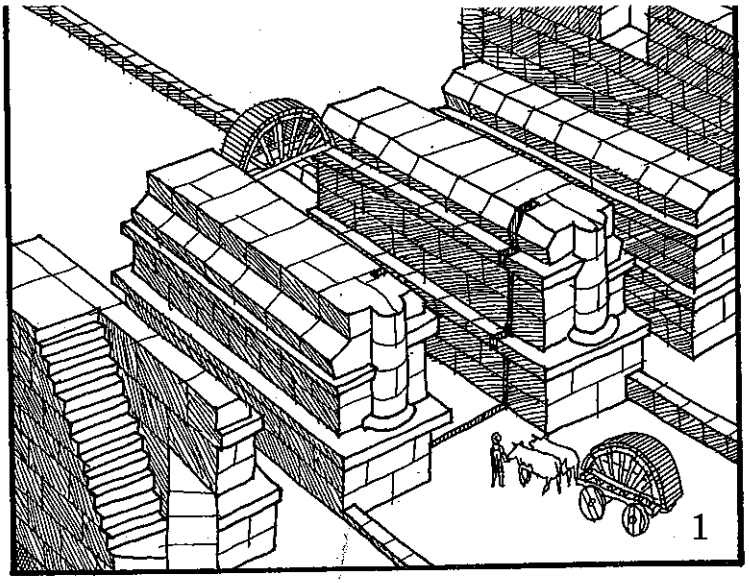




The city wall was built next. Two large ditches were dug along the furrow and the dirt was heaped into a high mound between them. A stone wall was built against each side for additional strength. The base of the outer wall went down thirty feet below ground level, making it almost impossible for anyone to tunnel under. On top of the outer wall alternating high and low sections called crenelations were built. The soldiers were protected behind the high sections while firing their weapons over the low sections. The inner wall was several feet higher than the outer wall to block the path of rocks and arrows that might be fired into the city.

Cranes on top of the mound lowered the stones into place. Four men standing inside a wooden wheel at the base of the crane provided the power. As they walked forward the wheel turned, rotating an axle which wound the rope. The engineers constantly checked to make sure each course of stones was level.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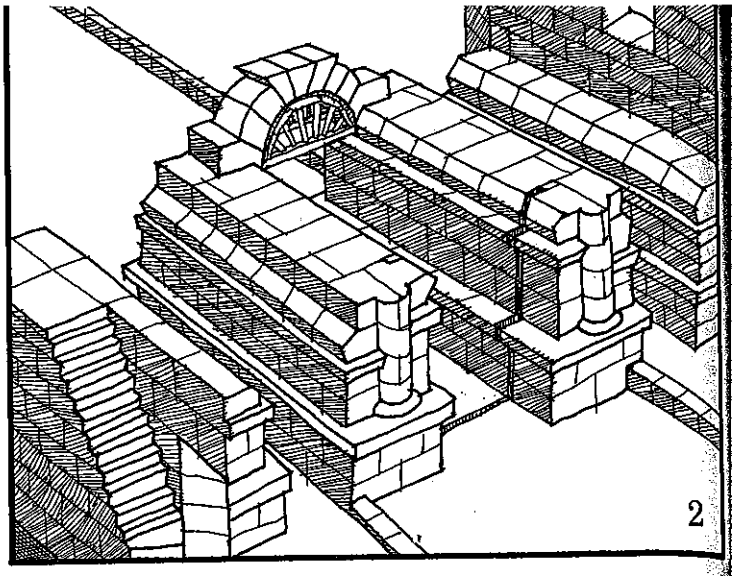
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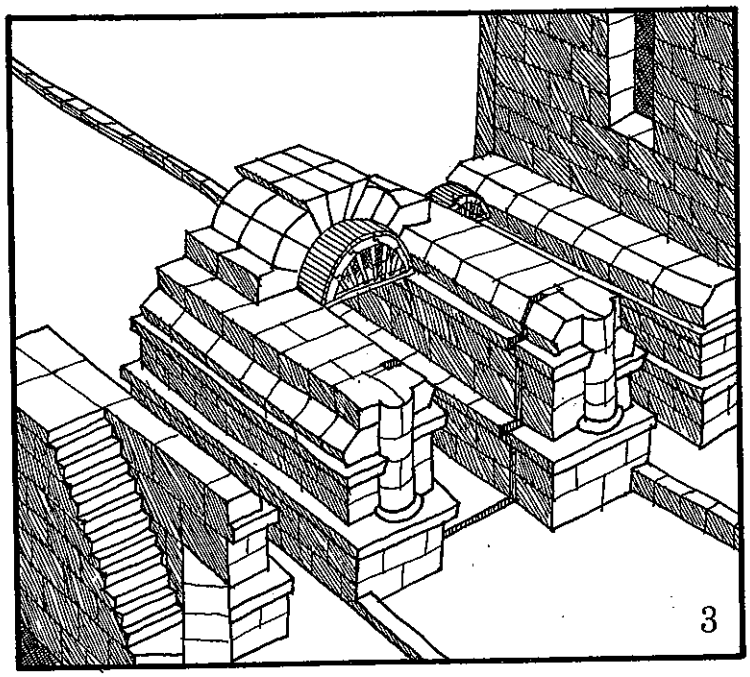
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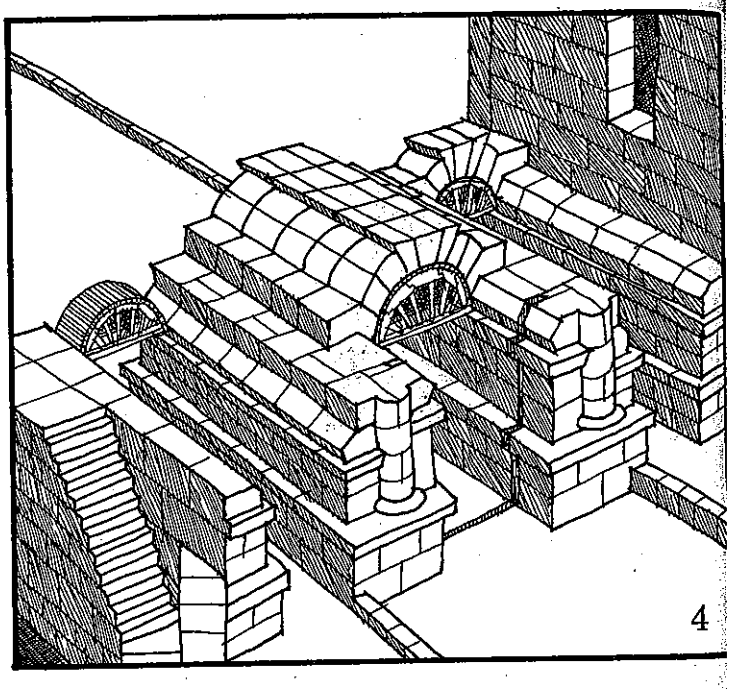
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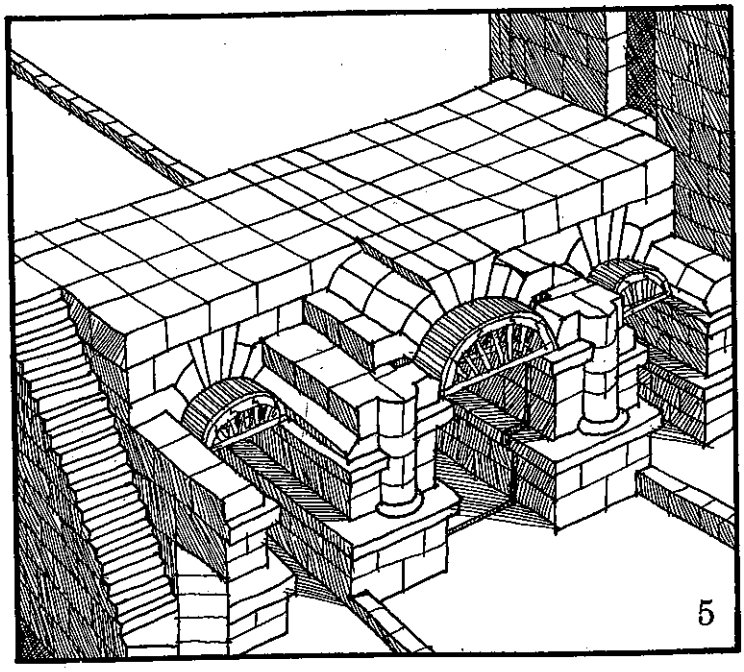
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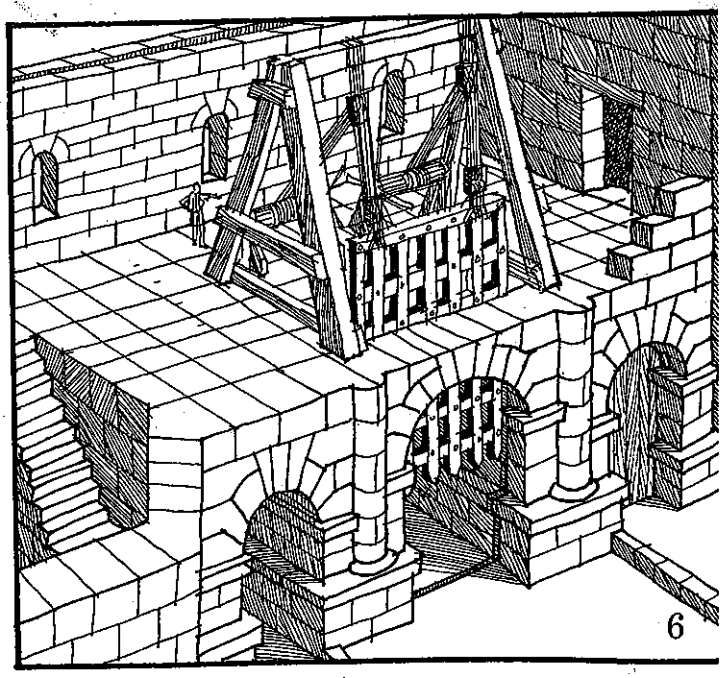
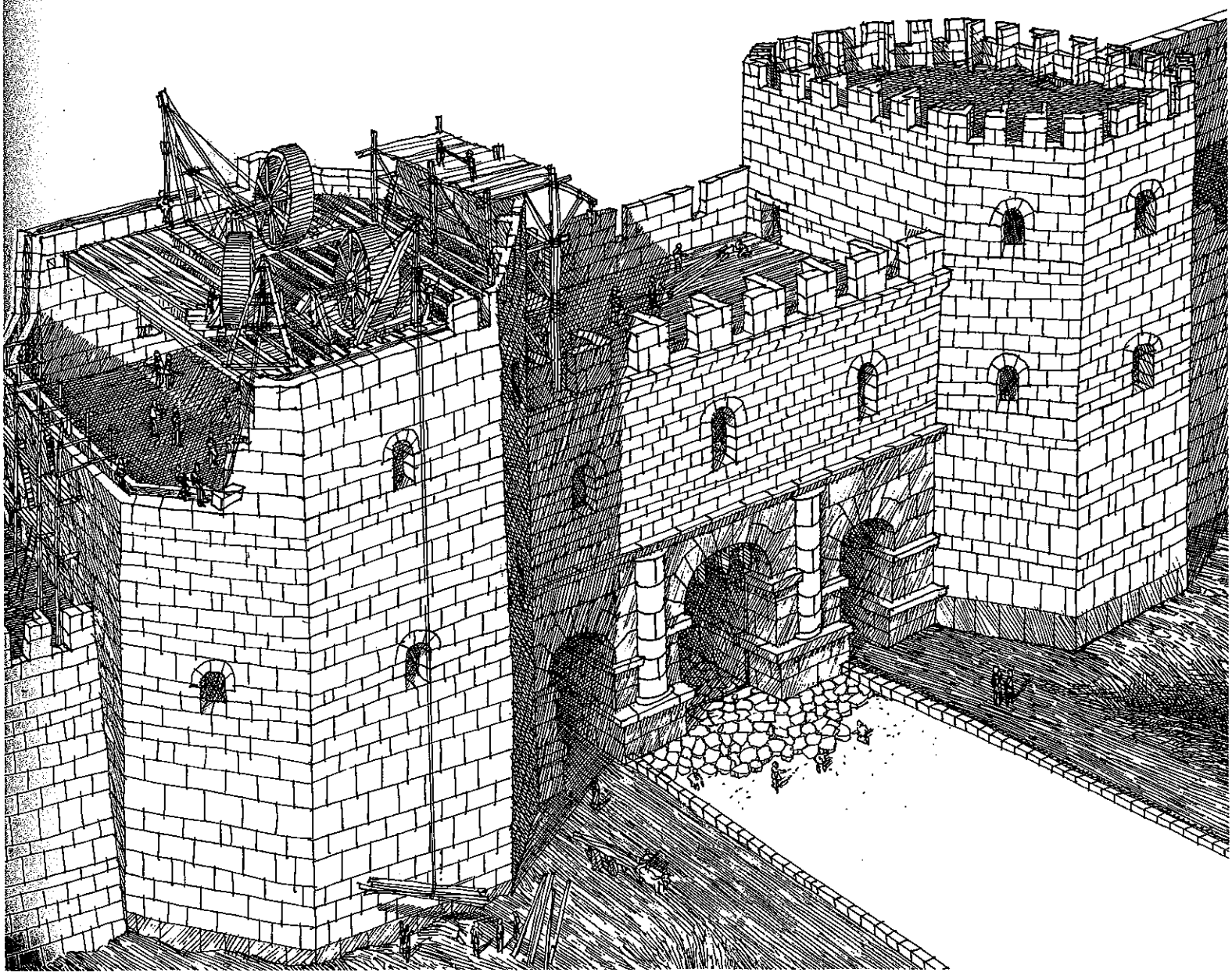
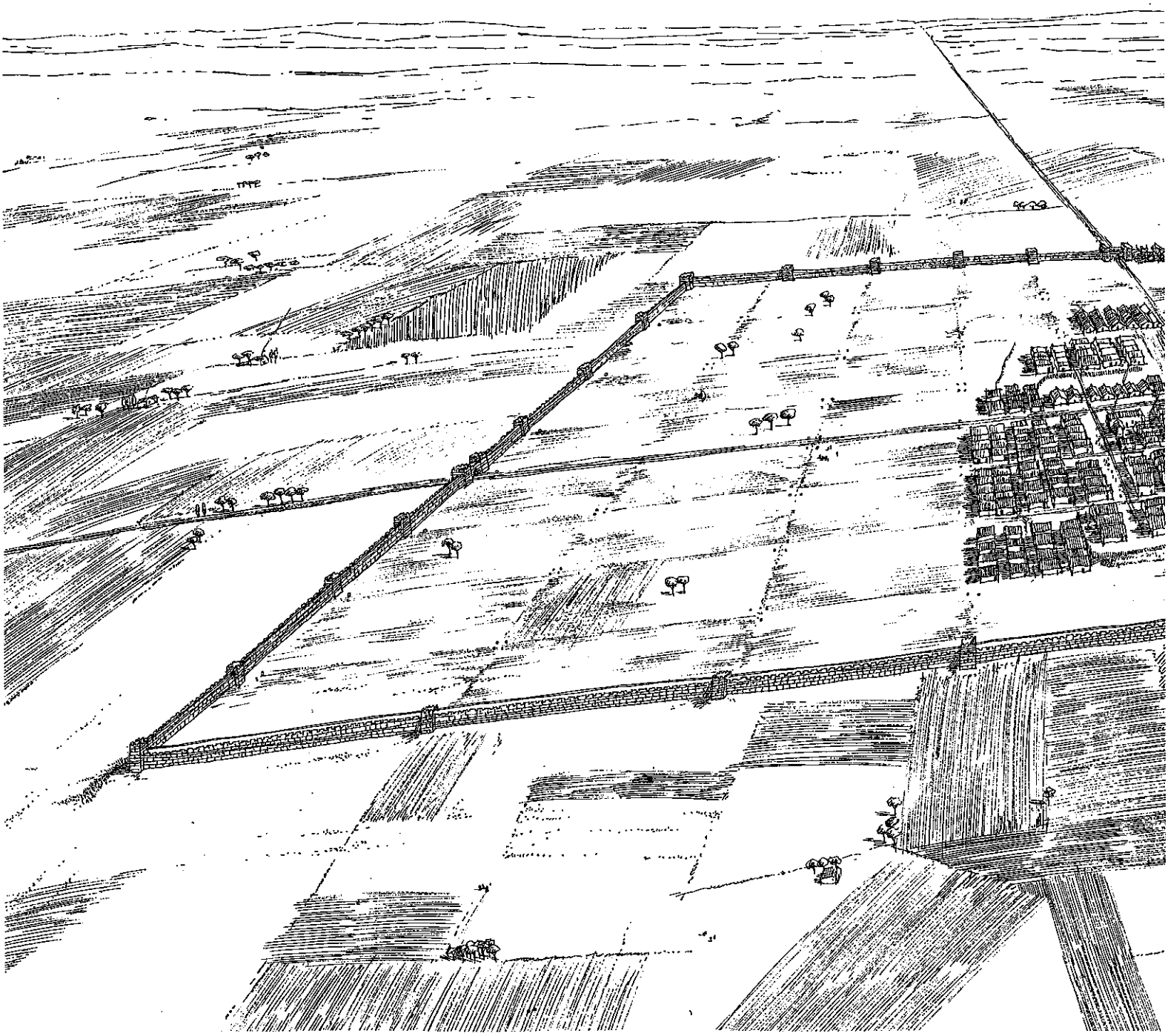
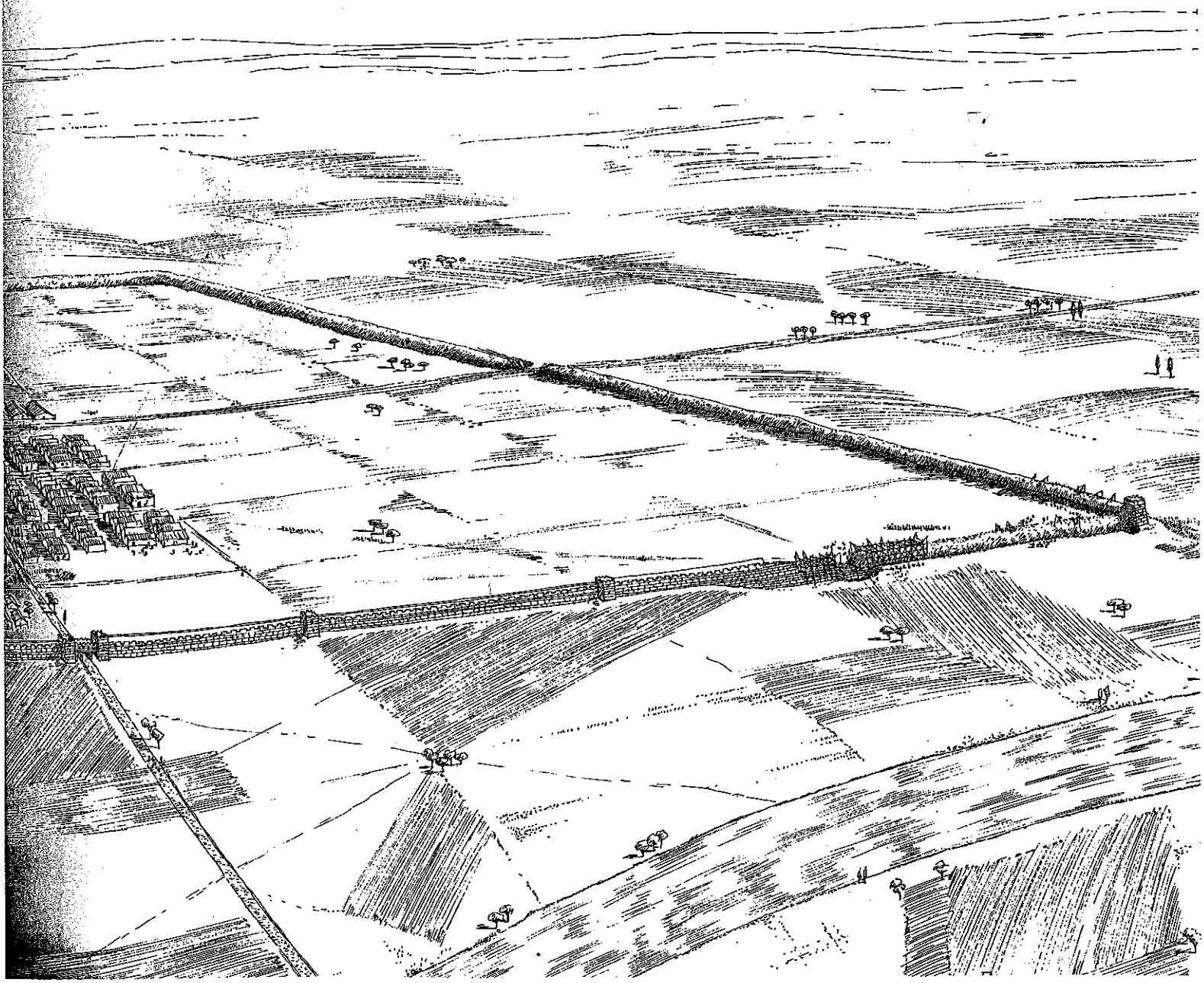

6

Each gate contained three vaulted openings, one for the road and another for each sidewalk. When the walls on both sides of the road were finished, a wooden arch called a centering was supported between them on projecting stones. The masons, working from both sides, then placed wedge-shaped stones on top of the centering. When the keystone was inserted in the center, the arch was complete. The centering was then moved sideways and another arch was constructed next to the first. This process was repeated until the entire passageway was covered by a semicircular roof called a tunnel vault. The sidewalks were covered in the same way.

The openings in the gate were sealed by heavy wooden doors. The central opening was also protected by a wooden grate called a portcullis, lowered from a room above the street. Both the doors and the portcullis were covered with bronze plates.



Along the wall and on each side of the main gates high watchtowers were built for additional protection.



At first, Verbonia's drinking water came from several deep wells within the city walls. But the planners knew that as the population increased the wells would no longer be sufficient. A pipeline called an aqueduct was proposed to bring water from the mountain lakes thirty-eight miles to the south.